

# STN-Structure Search

12/28/07

10/563,138

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L6 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2007:793735 CAPLUS

DOCUMENT NUMBER: 147:166527

TITLE: Processes to prepare finasteride polymorphs

INVENTOR(S): Mandava, Venkata Naga Brahmeswara Rao; Singamsetty, Radhakrishna; Manne, Nagaraju; Vujjini, Satish Kumar

PATENT ASSIGNEE(S): India

SOURCE: U.S. Pat. Appl. Publ., 8pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

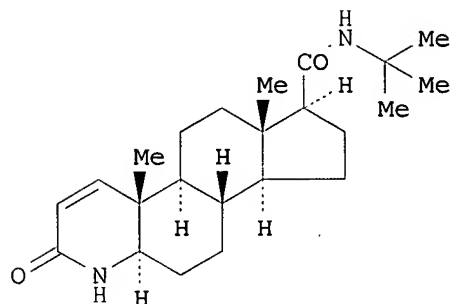
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2007167477	A1	20070719	US 2007-622555	20070112
IN 2006CH00057	A	20071123	IN 2006-CH57	20060113
PRIORITY APPLN. INFO.:			IN 2006-CH57	A 20060113
			US 2006-747973P	P 20060523

GI



I

AB Processes were disclosed for the preparation of polymorphic crystalline Form I and Form III of finasteride (I).

IT 98319-26-7P, Finasteride

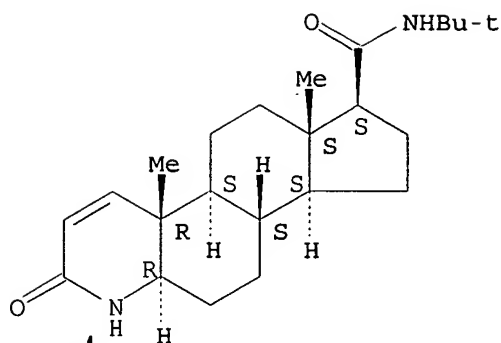
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(process for preparation of finasteride polymorphs)

RN 98319-26-7 CAPLUS

CN 1H-Indeno[5,4-f]quinoline-7-carboxamide, N-(1,1-dimethylethyl)-2,4a,4b,5,6,6a,7,8,9,9a,9b,10,11,11a-tetradecahydro-4a,6a-dimethyl-2-oxo-, (4aR,4bS,6aS,7S,9aS,9bS,11aR)- (CA INDEX NAME)

Absolute stereochemistry.



*Inventors*  
 L6 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:29343 CAPLUS

DOCUMENT NUMBER: 142:120533

TITLE: Process for the preparation of finasteride form I

INVENTOR(S): Kankan, Rajendra Narayanrao; Rao, Dharmaraj Ramachandra

PATENT ASSIGNEE(S): Cipla Limited, India; Wain, Christopher Paul

SOURCE: PCT Int. Appl., 17 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

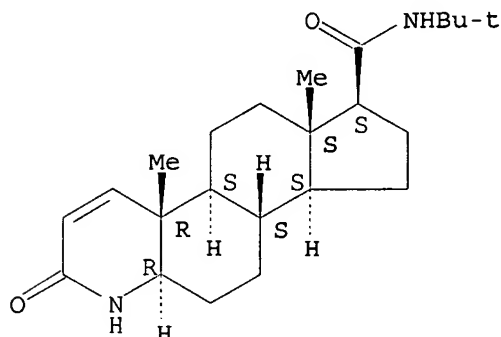
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005003149	A1	20050113	WO 2004-GB2906	20040705
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
IN 2003MU00676	A	20050304	IN 2003-MU676	20030703
EP 1651661	A1	20060503	EP 2004-743251	20040705
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
US 2007021455	A1	20070125	US 2006-563138	20060501
PRIORITY APPLN. INFO.:			IN 2003-MU676	A 20030703
			WO 2004-GB2906	W 20040705
AB The invention provides a process for preparing finasteride form I, which comprises dissolving finasteride in a solvent, replacing the solvent partially or substantially completely with a nonsolvent and thereafter isolating finasteride form I. There is also provided the therapeutic use of finasteride form I in the inhibition of 5 $\alpha$ -reductase, and pharmaceutical compns. containing the same.				
IT 98319-26-7P, Finasteride RL: IMF (Industrial manufacture); PAC (Pharmacological activity); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)				

(preparation of finasteride form I and its  
pharmaceutical formulation for inhibiting 5 $\alpha$  reductase)

RN 98319-26-7 CAPLUS

CN 1H-Indeno[5,4-f]quinoline-7-carboxamide, N-(1,1-dimethylethyl)-  
2,4a,4b,5,6,6a,7,8,9,9a,9b,10,11,11a-tetradecahydro-4a,6a-dimethyl-2-oxo-,  
(4aR,4bS,6aS,7S,9aS,9bS,11aR) - (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:390268 CAPLUS

DOCUMENT NUMBER: 140:395528

TITLE: Method of obtaining polymorphic form  
I of finasteride

INVENTOR(S): Silva Guisasola, Luis Octavio; Laderas Munoz, Mario;  
Martin Juarez, Jorge

PATENT ASSIGNEE(S): Ragactives, S.L., Spain

SOURCE: PCT Int. Appl., 23 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Spanish

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004039828	A1	20040513	WO 2003-ES556	20031029
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
ES 2206065	A1	20040501	ES 2002-2512	20021031
ES 2206065	B1	20050816		
AU 2003278193	A1	20040525	AU 2003-278193	20031029
EP 1580194	A1	20050928	EP 2003-769508	20031029
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
US 2005228008	A1	20051013	US 2005-119027	20050429
PRIORITY APPLN. INFO.:			ES 2002-2512	A 20021031
			WO 2003-ES556	W 20031029

AB The invention relates to a method of obtaining polymorphic Form I of finasteride. The inventive method comprises the following steps: (i) finasteride is dissolved in a substantially-anhydrous organic solvent, which is selected from Bu acetate, iso-Bu acetate, sec-Bu acetate, tert-Bu acetate, alkyl acetate C5 and mixts. thereof, at a temperature which is equal to or less than the b.p. of the aforementioned organic solvent; (ii) the dissoln. of finasteride is cooled slowly to a cooling temperature which is determined according to the selected solvent; (iii) the resulting suspension is maintained at the cooling temperature for a period of, or less than, 16 h; and (iv) the solid phase containing crystals of Form I of finasteride is recovered, for example, by means of filtration and the solvent is removed, for example, by drying said crystals. The method can be used to obtain Form I of finasteride in the unique, pure form.

IT 98319-26-7P, Finasteride

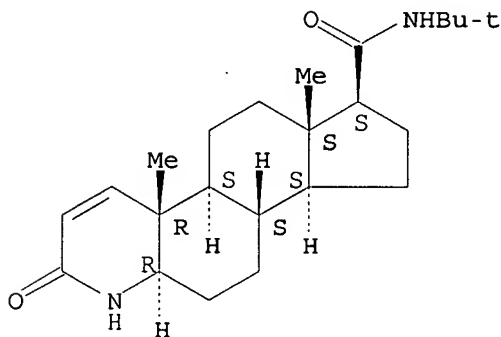
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PUR (Purification or recovery); PYP (Physical process); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)

(method of obtaining polymorphic form I of finasteride)

RN 98319-26-7 CAPLUS

CN 1H-Indeno[5,4-f]quinoline-7-carboxamide, N-(1,1-dimethylethyl)-2,4a,4b,5,6,6a,7,8,9,9a,9b,10,11,11a-tetradecahydro-4a,6a-dimethyl-2-oxo-, (4aR,4bS,6aS,7S,9aS,9bS,11aR)- (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2000:151800 CAPLUS

DOCUMENT NUMBER: 132:166387

TITLE: Finasteride preparation

INVENTOR(S): Slemon, Clarke

PATENT ASSIGNEE(S): Torcan Chemical Ltd., Can.

SOURCE: Brit. UK Pat. Appl., 14 pp.

CODEN: BAXXDU

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 2338234	A	19991215	GB 1998-12454	19980610
GB 2338234	B	20000503		
CA 2389666	A1	20010510	CA 1999-2389666	19991101

WO 2001032683	A1	20010510	WO 1999-CA1017	19991101
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1228084	A1	20020807	EP 1999-953456	19991101
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
JP 2003513103	T	20030408	JP 2001-535382	19991101
AU 773067	B2	20040513	AU 2000-10213	19991101
NO 2002002093	A	20020603	NO 2002-2093	20020502
ZA 2002004299	A	20030529	ZA 2002-4299	20020529
IN 2002KN00724	A	20050311	IN 2002-KN724	20020529
US 6677453	B1	20040113	US 2002-111979	20020618
PRIORITY APPLN. INFO.:			GB 1998-12454	A 19980610
			WO 1999-CA1017	W 19991101

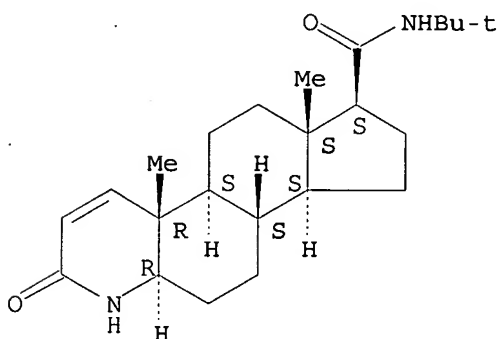
AB Polymorphic form I of finasteride was prepared by forming an insol. complex of finasteride and a Group I or Group II metal salt and the dissociating the complex by dissolving away the salt component with water to leave the substantially pure form I polymorphic crystalline finasteride.

IT 98319-26-7P, Finasteride  
 RL: PUR (Purification or recovery); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (finasteride preparation)

RN 98319-26-7 CAPLUS

CN 1H-Indeno[5,4-f]quinoline-7-carboxamide, N-(1,1-dimethylethyl)-2,4a,4b,5,6,6a,7,8,9,9a,9b,10,11,11a-tetradecahydro-4a,6a-dimethyl-2-oxo-, (4aR,4bS,6aS,7S,9aS,9bS,11aR) - (CA INDEX NAME)

Absolute stereochemistry.



L6 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1997:513504 CAPLUS

DOCUMENT NUMBER: 127:149281

TITLE: Process for the production of finasteride polymorphic form I via crystallization

INVENTOR(S): McCauley, James A.; Varsolona, Richard J.

PATENT ASSIGNEE(S): Merck and Co., Inc., USA

SOURCE: U.S., 6 pp., Cont.-in-part of U.S. 5,468,860.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

US 5652365	A	19970729	US 1995-411685	19950330
US 5468860	A	19951121	US 1993-10734	19930129
WO 9411387	A2	19940526	WO 1993-US10659	19931105
WO 9411387	A3	19940929		
W: BB, BG, BR, BY, CZ, FI, KR, KZ, LK, LV, MG, MN, MW, NO, NZ, PL, RO, RU, SD, SK, UA, US, UZ				
RW: BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
PL 179379	B1	20000831	PL 1993-309050	19931105
US 5886184	A	19990323	US 1997-824426	19970326

PRIORITY APPLN. INFO.:

US 1992-978535	B2 19921119
US 1993-10734	A2 19930129
WO 1993-US10659	W 19931105
US 1995-411685	A3 19950330

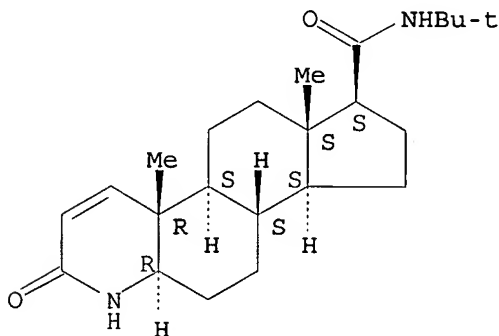
AB Polymorphic form I of finasteride, 17 $\beta$ -(N-tert-Bu carbamoyl)-4-aza-5 $\alpha$ -androst-1-en-3-one, is produced in substantially pure form using the steps of: (1) crystallization from a solution of finasteride in a water immiscible organic solvent and 0% or more by weight of water, producing solvated and non-solvated finasteride in solution, such that the amount of organic solvent and water in the solution is sufficient to cause the solubility of the non-solvated form of finasteride to be exceeded and the non-solvated form of finasteride to be less soluble than any other form of finasteride in the organic solvent and water solution: (2) recovering the resultant solid phase; and (3) removing the solvent therefrom; wherein the water immiscible organic solvent is Et acetate or iso-Pr acetate and the amount of water in the solvent mixture is below 4 mg./mL.

IT 98319-26-7DP, Finasteride, polymorphic Form I  
RL: PUR (Purification or recovery); SPN (Synthetic preparation); PREP (Preparation)  
(preparation and crystallization of polymorphic Form I of finasteride)

RN 98319-26-7 CAPLUS

CN 1H-Indeno[5,4-f]quinoline-7-carboxamide, N-(1,1-dimethylethyl)-2,4a,4b,5,6,6a,7,8,9,9a,9b,10,11,11a-tetradecahydro-4a,6a-dimethyl-2-oxo-, (4aR,4bS,6aS,7S,9aS,9bS,11aR) - (CA INDEX NAME)

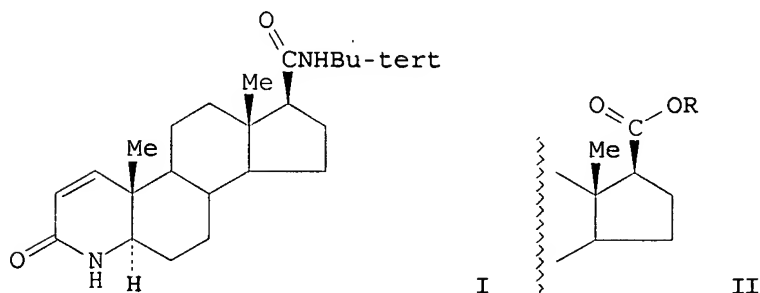
Absolute stereochemistry.



L6 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 1994:557962 CAPLUS  
DOCUMENT NUMBER: 121:157962  
TITLE: A process for the production of finasteride and its polymorphs

INVENTOR(S): Dolling, Ulf H.; McCauley, James A.; Varsolona, Richard J.  
 PATENT ASSIGNEE(S): Merck and Co., Inc., USA  
 SOURCE: Eur. Pat. Appl., 11 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 3  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 599376	A2	19940601	EP 1993-203163	19931112
EP 599376	A3	19940928		
EP 599376	B1	19980408		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE				
US 5468860	A	19951121	US 1993-10734	19930129
EP 655458	A2	19950531	EP 1995-200270	19931112
EP 655458	A3	19960710		
EP 655458	B1	19990303		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE				
EP 823436	A2	19980211	EP 1997-201712	19931112
EP 823436	A3	19981125		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE				
PRIORITY APPLN. INFO.:			US 1992-978535	A 19921119
			US 1993-10734	A 19930129
			EP 1993-203163	A3 19931112
OTHER SOURCE(S):		CASREACT 121:157962; MARPAT 121:157962		
GI				



AB The 5 $\alpha$ -reductase inhibitor finasteride (I) is prepared by reaction of 17 $\beta$ -carboalkoxy-4-aza-5 $\alpha$ -androst-1-en-3-ones II [R = C1-10 linear, branched, or cyclic alkyl with optional Ph substituent(s)], as their Mg halide salts, with t-butylaminomagnesium halide, present in at least a 2:1 molar ratio to II, formed from tert-BuNH<sub>2</sub> and an aliphatic/aryl magnesium halide at ambient temperature in an inert organic solvent under an inert atmospheric, followed by heating and recovering I. In 2 examples using II (R = Me), EtMgBr, and tert-BuNH<sub>2</sub>, under N in refluxing THF (12 h), I was prepared in 97% yield. Also disclosed are 2 polymorphic crystalline forms of I, and methods of their production Dissolving I in glacial AcOH and adding H<sub>2</sub>O up to  $\geq 84$  weight% H<sub>2</sub>O gives form I, whereas adding H<sub>2</sub>O up to 75-80 weight% H<sub>2</sub>O gives form II.

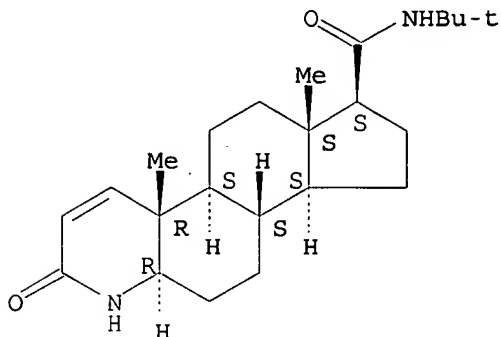
IT 98319-26-7P, Finasteride  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and polymorphic forms of)

RN 98319-26-7 CAPLUS

10/563,138

CN 1H-Indeno[5,4-f]quinoline-7-carboxamide, N-(1,1-dimethylethyl)-  
2,4a,4b,5,6,6a,7,8,9,9a,9b,10,11,11a-tetradecahydro-4a,6a-dimethyl-2-oxo-,  
(4aR,4bS,6aS,7S,9aS,9bS,11aR)- (CA INDEX NAME)

Absolute stereochemistry.



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(FILE 'HOME' ENTERED AT 09:52:19 ON 28 DEC 2007)

FILE 'REGISTRY' ENTERED AT 09:52:34 ON 28 DEC 2007

E FINASTERIDE/CN

L1 1 S E3  
L2 1 S E5  
L3 1 S E6

FILE 'CAPLUS' ENTERED AT 09:55:40 ON 28 DEC 2007

L4 69 S L1/PREP  
L5 7256 S FORM I OR POLYMORPH I OR CRYSTALLINE FORM I  
L6 6 S L4 AND L5

=> d l1

YOU HAVE REQUESTED DATA FROM FILE 'REGISTRY' - CONTINUE? (Y)/N:y

L1 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2007 ACS on STN

RN 98319-26-7 REGISTRY

ED Entered STN: 29 Sep 1985

CN 1H-Indeno[5,4-f]quinoline-7-carboxamide, N-(1,1-dimethylethyl)-  
2,4a,4b,5,6,6a,7,8,9,9a,9b,10,11,11a-tetradecahydro-4a,6a-dimethyl-2-oxo-,  
(4aR,4bS,6aS,7S,9aS,9bS,11aR)- (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 4-Azaandrost-1-ene-17-carboxamide, N-(1,1-dimethylethyl)-3-oxo-,  
(5 $\alpha$ ,17 $\beta$ )-

OTHER NAMES:

CN Chibro-Proscar

CN Finasteride

CN Finastid

CN Fincar

CN Finpecia

CN Fistide

CN MK 906

CN Propecia

CN Proscar

CN Prostide

FS STEREOSEARCH



10/563,138

MF C23 H36 N2 O2

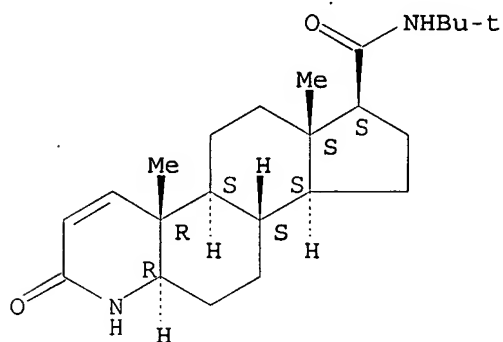
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SR CA

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(\*File contains numerically searchable property data)

Other Sources: WHO

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1011 REFERENCES IN FILE CA (1907 TO DATE)

11 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

1015 REFERENCES IN FILE CAPLUS (1907 TO DATE)

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